

ATTORNEY DOCKET NO.:  
Amdt. Dated 07/17/2006  
Response to Office action of 02/15/2006

Application No. 10/802/121

**LISTING OF CLAIMS**

1. (currently amended): A method for non-destructive testing of a structure, the method comprising the steps of:  
scanning a portable varying frequency induction coil over a surface of a structure;  
depositing induction energy within at least a portion of a volume of [[a]] the structure; and  
detecting transient temperatures at [[a]] the surface of the structure caused by diffusion of the deposited induction energy with an IR detecting means.
2. (original): The method for non-destructive testing according to Claim 1, further including the step of automatically analyzing the detected transient temperatures.
3. (original): The method for non-destructive testing according to Claim 2, further including the step of automatically analyzing the detected transient temperatures by a computer processor.
4. (original): The method for non-destructive testing according to Claim 2, further including the step of determining whether a flaw is present in the structure.
5. (original): The method for non-destructive testing according to Claim 4, further including the step of recording a location of one or more detected flaws in a structure.
6. (currently amended): The method for non-destructive testing according to Claim 5, further  
including the step of providing a user with [[at least one of an auditory or]] a visual indication when a flaw is detected.
7. (original): The method for non-destructive testing according to Claim 1, wherein the

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transient temperatures are detected by one or more IR focal plane arrays.

8. (original): The method for non-destructive testing according to Claim 7, wherein the IR focal plane array is an IR camera.

9. (original): The method for non-destructive testing according to Claim 8, wherein the IR camera is an IR video camera.

10. (cancelled)

11. (cancelled)

12. (cancelled)

13. (currently amended): The method for non-destructive testing according to Claim 1, wherein the energy deposited includes multiple high and low band energy frequencies.

14. (original): The method for non-destructive testing according to Claim 1, wherein the structure is at least one of a metal, composite metal, carbon fiber, ceramics or fiberglass.

15. (original): The method for non-destructive testing according to Claim 1, wherein the structure is comprised of a metallic portion and a non-metallic portion.

16. (original): The method for non-destructive testing according to Claim 1, wherein the structure is comprised of at least two thermally dissimilar metals.

17. (original): The method for non-destructive testing according to Claim 15, wherein the structure is comprised of a metal, a boron-epoxy skin and a honeycomb panel.

18. (original): The method for non-destructive testing according to Claim 1, wherein the diffusion of the deposited energy forms a pattern.

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19. (original): The method for non-destructive testing according to Claim 18, wherein the pattern has a honeycomb shape.

20. (original): The method for non-destructive testing according to Claim 19, wherein the structure is and airplane wing.

21. (original): The method for non-destructive testing according to Claim 20, wherein the airplane wing is an F-15 airplane wing.

29. (cancelled)

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30. (currently amended): A method for non-destructive testing of a structure, the method comprising the steps of:

means for portably scanning a structure;

means for injecting induction energy within at least a portion of a volume of [[a]] the structure; and

means for monitoring temperatures at a surface of the structure caused by diffusion of the deposited energy.

31. (original): The method for non-destructive testing according to Claim 30, further including means for analyzing the monitored temperatures.

32. (original): The method for non-destructive testing according to Claim 31, further including means for analyzing the monitored temperatures by a computer processor.

33. (original): The method for non-destructive testing according to Claim 30, further including means for determining whether a flaw is present in the structure.